4) **LNP Unallocated Number: the number of incoming SS7 calls where the FCI indicated "translated number" with no "ported number" GAP and where the call receives unallocated number treatment.**

5) **LNP Unallocated Number with LRN: the number of LNP calls where the switch detects it's own LRN but the call receives unallocated number treatment.**

These measurements are in addition to the existing relevant measurements relating to AIN query activities.
<End of REQ-740>

Protocol errors detected and reported for LNP triggers and responses will be pegged normally without distinction for the LNP trigger.

4.5.3 Network Management

<REQ-IL-GR-743V1>
For LNP calls, Network Management controls shall be extended to the LRN. This includes controls for the LRN and called number at the intermediate switch contained in the CdPN and "ported number" GAP, respectively.
<End of REQ-743>

4.5.4 Billing

4.5.4.1 Overview of Number Portability AMA Recording

A flexible AMA module (a.k.a. Bellcore AMA Format Module) will be appended to existing originating call and access charge AMA records for LNP recording. The flexible module will be used to avoid the difficult task of correlating special LNP query records with AMA records for the call. Multiple LNP modules may be appended to a switch generated AMA record when it is necessary to provide number portability information for more than one party of a call (e.g. calling party, called party, or alternatively billed third party).

The LNP module will be appended to existing AMA records (e.g. CC04, CC05, CC06, CC110, etc.) generated at an LNP capable switch which performs an LNP query. The LNP module will contain information associated with a ported terminating (called party) as supplied by the LNP SCP database. It is also desirable that a switch serving as an intermediate IC switch be capable of populating the LNP module information for the an originating ported DN. The information for an originating ported DN may be obtained from incoming SS7 ISUP signaling (Jurisdiction Information Parameter - JIP), from switch data for a directly connected dedicated trunk group, or from the LNP SCP database. However, the capability for an switch to obtain number portability information from an LNP SCP database for an originating ported DN to support switch AMA recording is an optional requirement of this document.

The content of the LNP module, and the rules for generation and population of it, are described in section 4.5.4.2. The LNP module may be generated on any call type (e.g. sent-paid, local measured usage timed, local measured usage untimed, intraLATA Toll, interLATA toll, OutWATS, etc.) to a ported DN.

In addition to the LNP module a new AMA Call Code is defined to support "Connecting Network Access" charge recording for calls which cross local network boundaries, but for which existing access charge recording (e.g. CC119 AMA records for terminating IC access charges) does not apply. This new "Connecting Network Access" Call Code will be used in conjunction with existing AMA Structure Code 625. AMA records that use the new "Connecting Network Access" Call Code will be generated for calls incoming over inter-office trunk groups specifically marked for such recording.

The new "Connecting Network Access" AMA Call Code, and the rules for generation and population of AMA records with this Call Code are provided in section 4.5.4.3.

4.5.4.2 Generation of the Local Number Portability (LNP) Module

<REQ-IL-GR-1100V1>
Number portability information may need to be provided by a switch for AMA recording for Number Portability. Number portability information consists of: the LRN of the switch serving the DN; the party (originating or terminating) for which the information applies; and the source of the number portability information (LNP SCP database, SS7 ISUP signaling, or switch data). The source of the number portability information will vary depending upon the type of switch recording the information and upon the type of party for which the information is recorded (e.g. originating or terminating DN). The switch recording the number portability information for AMA shall use the following matrix to determine the appropriate source of the information:

LNP Module Party Type	Switch Type	Incoming Trunk Type	Source of NP Information - in order of preference	Note
Originating DN	IC or CAMA	SS7	• SS7 ISUP Signaling - IAM JIP • Switch data - incoming trunk group "LRN" if no ISUP JIP received • LNP SCP database when neither switch data nor ISUP JIP available	1 and 2
		Non-SS7 with dedicated traffic from a single service provider	• Switch data • LNP SCP database	1 and 2
		Non-SS7 with traffic from multiple service providers	• LNP SCP database	2
	Originating		• Switch data	1
	Intermediate, Recipient, or Donor		• Not required	
Terminating DN	Originating, Intermediate, IC, CAMA, or Donor		• LNP SCP database	
	Recipient		• Switch data	1

Note 1: In the future, switch data may contain number portability information such as service provider identity on a per-DN basis. However, initially no information will be recorded from switch data for a DN.

Note 2: The capability for an switch to perform an LNP query to retrieve number portability information for an originating DN is an optional requirement of this document.

<End of REQ-1100>

The LNP Module definition, along with those of associated BAF tables, will be provided in an update to this GR following completion of a BAF module format definition by Bellcore. Bellcore subject matter experts will be working with representatives from the *ICC Number Portability Billing and Rating Subcommittee*, and other interested parties, to provide a module definition to support both service provider portability AMA recording needs, and longer term recording needs for location portability. The proposed LNP module definition is provided in Appendix A to this document.

4.5.4.2.1 General Rules for Appending the LNP Module

This section defines common rules from appending the LNP module to switch generated AMA records. These common rules are not dependent on switch type.

<REQ-IL-GR-1110V1>
The appropriate LNP module shall be appended to an AMA record, if any is made for reasons other than recording the LNP query, for the call involving a ported DN as described in subsequent requirements. If no AMA record is made for the call, then the LNP module data shall not be recorded. If no LNP module data is available from any source (i.e. switch data, incoming signaling, or LNP SCP database), then the LNP module shall not be appended (i.e. a null or empty LNP module should not be recorded).
<End of REQ-1110>

<REQ-IL-GR-1120V1>
The switch should not generate an AIN AMA record of structure code 022x, nor an IN record of structure code 0360 or 0364 for an LNP trigger (LNP query). However, if the LNP SCP database response message contains an AIN AMASLPID parameter, then the switch shall follow existing procedures to generate an AIN AMA record of structure code 022x. In this case, if an LNP module is generated for the call, the switch shall append it to AIN Structure Code 022x AMA record.

An AMASLPID is not expected to be returned from a database in response to an LNP query.
<End of REQ-1120>

<REQ-IL-GR-1130V1>
The LNP module shall be appended to the AMA record when ever an LNP trigger is encountered that results in an query to the LNP database. The LNP module shall be populated as follows depending on the contents of the response message from the LNP database:

When an LRN is received in the response message from the LNP SCP database, it shall be included in the LRN field of the LNP module. The Party Identifier should be set to indicate the terminating party, and the Supporting Information to indicate a LRN Source of "LNP Databse" with a Query Failure indicator of "No Query Failure". Both the Service Provider Identity and Location field shall be populated as received from the LNP database. If either Service Provider Identity or Location is not received from the LNP database, then these fields shall be filled with "Hexidcimal F" in accordance with BAF fill procedures.

When the switch receives response message from the LNP SCP database containing the original Dialed Number, the LRN filed of the LNP module shall befilled with "Hexidecimal F". The Party Identifier should be set to indicate the terminating party, and the Supporting Information to indicate a LRN Source of "LNP Databse" with a Query Failure indicator of "No Query Failure".

Both the Service Provider Identity and Location field shall be populated with "Hexidcimal F" in accordance with BAF fill procedures.

When the LNP trigger encounters on of the following unusual conditions:

- the switch receives an AIN CONTINUE message from the LNP SCP database in response to the LNP query,
- no response message is received from the LNP SCP database for the LNP query,
- a Return Error component is received in the response message from the LNP SCP database,
- a Reject component is received in the response message from the LNP SCP database,
- a protocol error is detected in the response message received from the LNP SCP database.

In these cases the LRN field shall be filled with "Hexidecimal F". The Party Identifier should be set to indicate the "Terminating party", and the Supporting Information to indicate a LRN Source of "LNP Databse" with a Query Failure indicator appropriate to the condition encountered. Both the Service Provider Identity and Location field shall be populated with "Hexidcimal F" in accordance with BAF fill procedures.

If the LNP module does not contain a valid LRN, then downstream billing system processing may have to do additional work to identify the service provider of an originating DN.
<End of REQ-1130>

<REQ-IL-GR-1133V1>
The LNP-database-supplied number portability information (e.g. LRN) shall be accepted by the switch and recorded in the LNP module without any validation or screening.
<End of REQ-1133>

<REQ-IL-GR-1135V1>
On a long duration call involving a ported DN(s), a LNP module(s) that is appended to the first call record shall also be appended to subsequent long duration "continuation" records made for that particular call.
<End of REQ-1135>

4.5.4.2.1.1 Appending the LNP Module at an Originating Switch

The originating switch has several scenarios to contend with regarding charge recordings. In general, calls to a ported number in which the originating switch launches a query will result in an LNP module to record the LNP information for the ported terminating DN.

Future scenarios will exist where a number originates a call and has Service Provider Identity or other number portability related data provisioned on its DN. This will result in an LNP module containing originating party information. It may be possible , once per-DN number portability data is provisioned in a switch; to have both originating and terminating LNP modules appended to an AMA record.

<FUT-IL-GR-1143V1>
For an originating number, if Service Provider Identity is specified for the originating DN on the switch, the LNP module containing the Service Provider Identity of the originating party shall be appended to any AMA record made for the originating subscriber. The LNP module shall be populated with the Service Provider Identity of the originating number and the LRN associated with the originating number.

Initially a single LRN is expected to be associated with all DNs on the switch to which that LRN applies. In the future, different LRNs may be associated with different DNs on the same switch. The same LRN will be recorded in the LNP module for this case as would be signaled in the JIP for call originations from the DN.
<End of FUT-1143>

<FUT-IL-GR-1145V1>
For an intra-switch call, if Service Provider Identity is specified for the terminating DN on the switch, the LNP module containing the Service Provider Identity of the terminating party shall be appended to the AMA record made for the call to the terminating subscriber. The LNP module shall be populated with the Service Provider Identity of the terminating number and the LRN associated with the terminating number.

Initially a single LRN is expected to be associated with all DNs on the switch to which that LRN applies. In the future, different LRNs may be associated with different DNs on the same switch. The same LRN will be recorded in the LNP module for this case as would be signaled in the JIP for call originations from the DN.
<End of FUT-1145>

4.5.4.2.1.2 Appending the LNP Module at a Donor Switch

The following requirements cover the general rules for appending the LNP module at a Donor switch.

<REQ-IL-GR-1160V1>
When a LNP query is made at the donor switch, if the switch records a terminating access record for calls from another network, the LNP module containing the LNP-database-supplied number portability information for the terminating party shall be appended to the terminating access record. If more than one switch AMA record is made at the donor switch for the call, the LNP module shall only be appended to the terminating access record.

Terminating access records are commonly generated for Feature Group "B", Feature Group "D", Cellular Type 2B, or "Connecting Network" access (e.g. CC119, CC135, CC66, or CCXXX).
<End of REQ-1160>

4.5.4.2.1.3 Appending the LNP Module at an Intermediate Switch

The following requirements cover the rules for appending the LNP module at an intermediate switch, including at an intermediate switch in an N-1 network. Three optional requirements are provided specifically for intermediate switches that perform Centralized Automatic Message Accounting (CAMA) for incoming calls (refereed to as a CAMA switch).

<REQ-IL-GR-1190V1>
When a LNP query is made at an intermediate switch, if the switch records a terminating access record for calls from another network, the LNP module containing the LNP-database-supplied number portability information for the terminating party shall be appended to the terminating access record. If more than one switch AMA record is made at the intermediate switch for the call, the LNP module shall only be appended to the terminating access record.

Terminating access records are commonly generated for Feature Group "B", Feature Group "D", Cellular Type 2A, or "Connecting Network" access (e.g. CC119, CC135, CC64, or CCXXX).
<End of REQ-1190>

<OPT-IL-GR-003V1>

When a LNP query is made at a CAMA switch, if the switch records a originating AMA Structure Code for the call, the LNP module containing the LNP-database-supplied number portability information for the terminating DN shall be appended to the AMA record.

Initially, the number portability information will be the LRN of the ported party, but in the future may also include Service Provider Identity.
<End of OPT-003>

<OPT-IL-GR-004V1>
For a given call, a CAMA switch shall be capable of appending up to two LNP modules to an originating AMA Structure Code; one LNP module for an originating DN, and the other for a terminating ported DN. The number portability information for the originating DN may be obtained from SS7 ISUP signaling (i.e. JIP), from data provisioned on the incoming CAMA trunk group (i.e. per-trunk group "LRN"), or from a response message from an LNP SCP database. The number portability information for a ported terminating DN will only be available when a LNP query is performed at the CAMA switch.
<End of OPT-004>

<OPT-IL-GR-005V1>
When number portability information for an originating party can not be obtained from either incoming SS7 ISUP signaling or from switch data, then the CAMA switch should be capable of querying the LNP SCP database to obtain this information to be recorded in the LNP AMA module.

If this optional capability to query for the number portability information of a ported originating DN is not available on the CAMA switch, then the CAMA switch owner will need to employ "off-line" means to determine the correct service provider of a ported DN.
<End of OPT-005>

4.5.4.2.1.4 Appending the LNP Module at an IC Switch

The following requirements cover the rules for appending the LNP module at an IC switch.

<REQ-IL-GR-1220V1>
When a LNP query is made at an IC switch, if the switch records an AMA Structure Code for the call, the LNP module containing the LNP-database-supplied number portability information for the terminating DN shall be appended to the AMA Structure Code.

IC switches supporting Customer Detail Record (CDR) format are expected to provide equivalent recording of the LNP-database-supplied number portability information (e.g. LRN, Service Provider Identity, and location) in the appropriate format.

Initially, the number portability information will be the LRN of the ported party, but in the future may also include Service Provider Identity.
<End of REQ-1220>

<REQ-IL-GR-1230V1>
For a given call, an IC switch shall be capable of appending up to two LNP modules to an existing AMA record; one LNP module for an originating DN, and the other for a terminating ported DN. The number portability information for the originating DN may be obtained from SS7 ISUP signaling (i.e. JIP), from data provisioned on the incoming trunk group (i.e. per-trunk group "LRN"), or from a response message from an LNP SCP database. The number portability information for a ported terminating DN will only be available when a LNP query is performed at the IC switch.

When the LRN field of the LNP module records information received from incoming ISUP signaling (i.e. JIP), the last four (least significant) digits of the LRN field shall be filled with zeros.

IC switches supporting Customer Detail Record (CDR) format are expected to provide equivalent recording of the LNP number portability information (e.g. LRN, Service Provider Identity, and location) in the appropriate format.

Note: the ability to query an LNP SCP database for information (e.g. LRN) of an originating ported DN is an optional requirement of this document.
<End of REQ-1230>

<OPT-IL-GR-006V1>
When number portability information for an originating party can not be obtained from either incoming SS7 ISUP signaling or from switch data, then the IC switch should be capable of querying the LNP SCP database to obtain this information to be recorded in the LNP AMA module or CDR.

If this optional capability to query for the number portability information of a ported originating DN is not available on the IC switch, then the IC switch owner will need to employ "off-line" means to determine the correct service provider to bill for calls from the ported DN.
<End of OPT-006>

4.5.4.2.1.5 Rules for Appending the LNP Module for Feature Interactions

The following requirements cover the rules for appending the LNP module at an switch which generates an AMA record associated with a feature activation, assignment, or supplementary service. Such feature related AMA records may not be associated with an actual call.

<REQ-IL-GR-1240V1>
For Message Detail Recording to the Customer Premise, the LNP module data should not be present in MDR records sent to the customer premise.

Neither LRN nor Service Provider Identity will be included in MDR records sent to a CPE.
<End of REQ-1240>

<REQ-IL-GR-1250V1>
The LNP module shall be appended to existing SSP Toll Free (e.g. 800 or 888) AMA records (e.g. Call Code 0142 records), when an LNPquery follows an SSP Toll Free query in the same SSP.
<End of REQ-1250>

<FUT-IL-GR-1253V1>
On a call that is originated from a DN for which Service Provider Identity (or other number portability information) is provisioned, the LNP module shall be appended to the AMA record for the initial call leg when the call encounters an AIN 0.1 Public Office Dialing Plan (PODP) trigger. The LNP module containing switch supplied data for the originating DN shall be appended to the AMA record, if any, for the initial call leg (i.e. call record for the call from originating party 'A' to the PODP trigger DN).
<End of FUT-1253>

<FUT-IL-GR-1255V1>
If a ported DN is assigned an AIN 0.1 Terminating Attempt Trigger (TAT), and an AIN AMA record of structure code 0221 is created by the switch for the call terminating attempt to the ported

DN, then the LNP module shall be appended to the AIN AMA record. The LNP module shall be populated with switch supplied number portability information for the ported terminating DN.
<End of FUT-1255>

<REQ-IL-GR-1260V1>
When an LNPquery is done following an unrelated AIN PODP trigger in the same SSP, then the LNP module shall be appended to the AMA record, if any, made for the post-AIN-query leg of the call (e.g. structure code 0220 record). If no AIN record is written for the post-AIN-query call leg, then the LNP module will not be generated.
<End of REQ-1260>

<REQ-IL-GR-1270V1>
When an LNPquery is done following an unrelated AIN TAT trigger in the same SSP, then the LNP module shall be appended to the AMA record, if any, made for the post-AIN-query leg of the call (e.g. Structure Code 022x). If no AMA record is written for the post-AIN-query leg of the call, then the LNP module will not be generated.
<End of REQ-1270>

<REQ-IL-GR-1280V1>
When an LNPquery is done following an unrelated AIN trigger other than a PODP or TAT (e.g. an OHD trigger) in the same SSP, then the LNP module shall be appended to the AMA record, if any, made for the post-AIN-query leg of the call.

For example, for a call which encounters an Off-Hook-Delay (OHD) trigger followed by an LNP trigger, because the called party number returned in the AIN response message for the OHD trigger is a ported DN, the LNP module would be appended to the AMA record, if any, made for the OHD query.
<End of REQ-1280>

<FUT-IL-GR-1285V1>
The LNP module shall be appended to all feature usage AMA records made by the switch for a DN when number portability information (e.g. Service Provider Identity) is provisioned in switch data for the DN.

Examples of feature usage records for which the LNP module should be appended are: CLASS feature activation, CLASS Screen List Editing aggregate usage, Call Forwarding activation, Usage-Sensitive Three-Way Calling activation, Conference Trunk usage, Terminating Subscriber Line Usage Study (TLUS), and Terminating ISDN supplementary services.

For non-call associated feature usage records it may not be possible for the switch to determine which LRN for the switch to associate with the DN for which the LNP module is recorded. LRN field fill procedures will be used for the LNP module in this case. Any other per-DN number portability information will be recorded in the LNP module without the LRN.
<End of FUT-1285>

4.5.4.3 Rules for Generating Connecting Network Access Record

<REQ-IL-GR-1290V1>
A Connecting Network Access AMA record shall be generated with Call Code XXX, and using existing Structure Code 0625, when a call is received over an incoming trunk for which the "connecting network access recording option" is on.

The "connecting network access recording option" is defined in section 4.5.1 - Service Changes.
<End of REQ-1290>

<OPT-IL-GR-002V1>

When the call incoming to the switch is received over a trunk group with the "limited recording of connecting network access " option on, the Connecting Network Access record shall be generated as described in REQ-1290 only when the recording switch performs a LNP query for the incoming call.

The "limited recording of connecting network access" option is defined in section 4.5.1 - Service Changes.
<End of OPT-002>

<REQ-IL-GR-1300V1>
For the Connecting Network Access record (CC XXX) structure code 0625 shall be populated as follows:

a) Record Descriptor Word (reference LSSGR Table 000) - per existing rules.
b) Hexadecimal Identifier (reference LSSGR Table 00) - per existing rules.
c) Structure Code (reference LSSGR Table 0) - per existing rules
d) Call Type (reference LSSGR Table 1) -Call Code XXX.
e) Connect Date (reference LSSGR Table 6) and Connect Time (reference LSSGR Table 18) - the date and time that the call is answered.
f) Timing Indicator (reference LSSGR Table 7) - per existing rules.
g) Study Indicator (reference LSSGR Table 8) - character 6 shall be set to indicate "no calling number" when neither ANI information nor trunk group "billing number" is available for the call. Otherwise, this indicator shall be populated per existing rules.
h) Called Party Off-Hook Indicator (reference LSSGR Table 9) - per existing rules.
i) Service Observed/Traffic Sampled (reference LSSGR Table 10) - per existing rules.
j) Operator Action (reference LSSGR Table 11) - per existing rules.
k) Service Feature (reference LSSGR Table 12) - per existing rules.
l) Originating NPA & Originating Number (reference LSSGR Tables 13 & 14) - ANI of calling party, if received; CPN of calling party, if the CPN was received without ANI; or the "billing number" assigned to the incoming trunk group. If ANI, CPN, nor trunk group "billing number" is available this field shall be filled with zeros.
m) Overseas Indicator, Terminating NPA & Terminating Number (reference LSSGR Tables 15, 16 & 17) - record the Dialed Number (not an LRN) per existing rules.
n) Elapsed Time (reference LSSGR Table 19) - records the call duration, per existing rules.
o) IC/INC Prefix (reference LSSGR Table 57) - record the carrier code assigned to the incoming trunk or trunk group. If none is assigned, then record the default value of '000' (i.e. unknown carrier) with character 5 set to a value of '9' to indicate that "CIC is unknown, IC/INC operator system involvement can not be determined".
p) Carrier Connect Date and Carrier Connect Time (reference LSSGR Tables 6 & 18) - record the time that the incoming seizure signal is detected by the switch.
q) IC/INC Call Event Status (reference LSSGR Table 58) - per existing rules (i.e. value '01' indicating incoming trunk seized).
r) Trunk Group Number (reference LSSGR Table 83) - records the number of the incoming trunk
s) Routing Indicator (reference LSSGR Table 59) - records a value of '1' "tandem" when the incoming trunk is from local tandem office, and a value of '0' "Direct" when the incoming trunk is from an end-office.
t) Dialing and Presubscription Indicator (reference LSSGR Table 85) - records a value of '8' "no CAC dialed, station not presubscribed, no presubscription indication", since this field is not applicable for Feature Group "C" type trunks.
u) ANI/CPN Indicator (reference LSSGR Table 60) - records a value of '1' "ANI provided" if ANI is received and recorded in the Originating NPA and Originating Number fields, a value of '2' "CPN provided" if CPN is received and recorded in the Originating NPA and Originating Number fields, a value of '3' "ANI and CPN

provided" if both ANI and CPN received and ANI is recorded in the Originating NPA and Originating Number fields; otherwise, records a value of '0' "neither ANI nor CPN provided".
<End of REQ-1300>

4.5.4.4 Rules for Populating Terminating Access Records

<REQ-IL-GR-1320V1>
When an switch receives an SS7 ISUP IAM with the FCI parameter indicating that an LNP query was performed by at a previous switch and containing the original Dialed DN in a GAP, and if a terminating access record (e.g. CC119, CC66, or CCXXX) is recorded by the switch, the GAP information should be used to populate the Terminating NPA and Terminating Number fields of the terminating access record. The LRN in the Called Party Number parameter should not be used in these fields.
<End of REQ-1320>

4.5.5 Administrative I/O Messages

With respect to the AIN Test Query capability, craft can initiate an LNP query; however, the generated "Ported Number" GAP and FCI values need not be displayed following the test query. The test query for LNP triggers must route the query to the appropriate LNP database.

The following tags identify additional maintenance output messages required to identify SCP database errors.

<REQ-IL-GR-745V1>
The switch shall provide notification to service provider personnel for LNP calls when the switch detects it's own LRN but the call receives "unallocated number" treatment. The notification shall include, if available, the calling party, called party, and the LRN. The call shall be cleared using existing ISUP call procedures and will use cause 26 - "Misrouted call to a ported number".
<End of REQ-745>

<OPT-IL-GR-746V1>
The switch shall provide notification to service provider personnel for LNP calls when the switch receives a REL message with a cause value of 26 "Misrouted call to a ported number". The notification shall include, if available, the calling party, called party, and the LRN.
<End of OPT-746>

4.6 Maintenance Requirements

A new test call mechanism is needed for calls to portable number to accomplish the following:

1. Allow the service provider of the recipient switch to direct a test call any other service provider's network by specifying the LRN for any switch.
2. The service provider receiving the test call would detect it's LRN and route the call as though the call had been received at the switch on an incoming trunk where the query had not been done.
3. The call would be redirected back to the recipient switch to connect to the subscriber.

Below are the requirements to support this test call. When a test call is initiated, the call will be routed based on the input LRN and routed to the donor switch that "owns" the LRN. The donor will detect is own LRN and recognized via the "ported number" GAP that this is a test call. The donor would replace the CdPN information with the contents of the GAP and process the call as though the GAP was not received and the FCI was not set. The donor would most likely encounter an LNP trigger and retrieve the

correct LRN for the recipient switch. The call would then be routed to the recipient. Note -- the test indicator in the GAP reset at the donor switch exactly as normal LNP calls.

<OPT-IL-GR-747V1>
The switch shall allow the LRN and the subscriber's number to be input on a test call. The input LRN shall be used to route the call to LRN's switch using the LNP routing tables. The IAM shall be formatted as though the LNP query had been launched and the input LRN was successfully returned. In addition to signaling the LRN in the CdPN and the subscriber's number in the "ported number" GAP, the switch shall set the test indicator in the "ported number" GAP to indicate that the call is a test LNP call.
<End of OPT-747>

<OPT-IL-GR-748V1>
The switch, once the it's own LRN is detected, shall determine if the "ported number" GAP specifies that the IAM is for test purposes. If so, the switch shall reset the FCI indicator to "number not translated" and analyze the address digits in the GAP using the number routing tables associated with the incoming trunk. The call proceeds as a non-test call using normal LNP processing.

When the GAP information is reanalyzed, the call may encounter an LNP trigger. If a trigger is encountered, LNP processing will occur as though LNP was not previously involved in the call.
<End of OPT-748>

4.7 Initialization and Recovery Requirements
No new requirements have been identified.

4.8 Capacity, Performance and Reliability Requirements
No new requirements have been identified.

4.9 Subscriber Limitations and Restrictions
Except where noted in this GR, switch features function transparently on calls to/from ported and non-ported numbers from a subscriber's perspective.

5. OPEN ISSUES

This section describes the current open issues for the Generic Switching and Signaling Requirements:

1) Should the LNP triggers placed on a 10-digit NPA-NXX-XXXX query regardless of the setting of the incoming FCI indicator? A proposal to allow this option was presented to the Requirements subcommittee. This would allow service providers to check their database in the event the subscriber has moved to a different service provider before all the SCP databases have been updated. This issue is under consideration by the subcommittee.

2) Should the "LNP Intraswitch" measurement in tag <740>, item 3 (page 57) be dropped. This issue is under study by the Requirements subcommittee.

3) The exact format of the AMA module for LNP is understudy. Appendix A indicates the proposed format.

APPENDIX A - PROPOSED LNP MODULE AND ASSOCIATED BAF TABLES

The LNP Module (Module AAA) is defined as follows:

Table 6 Local Number Portability (LNP) Module AAA

Field Description	*Table #*	*Number of Characters*
Module Code (AAA)	88	4 (BCD)
Party Identifier	BBB	4 (BCD)
Location Routing Number (LRN)	CCC	12 (BCD)
Service Provider Identity	DDD	10 (BCD)
Service Provider Identity	DDD	10 (BCD)
Location	EEE	16 (BCD)
Supporting Information	HHH	8 (BCD)

Table 7 BBB - Party ID Field

BCD Character	*Meaning*
1-3	001 = Originating Party DN
	002 = Terminating Party DN
	003 = Billing Party DN
	004 = Feature Usage DN
4	SIGN (Hex. "C")

Table 8 CCC Location Routing Field

BCD Character	*Meaning*
1	Constant (0)
2-11	Location Routing Number (NPA-NXX-XXXX)
12	SIGN (Hex. "C")

Table 9 DDD Service Provider Identity

BCD Character	*Meaning*
1	Constant (0)
2-9	Service Provider Identity
10	SIGN (Hex. "C")

Table 10 EEE Location Field

BCD Character	*Meaning*	
1-3	Location Type	001 = V&H Coordinates 002 = 5 digit U.S. Zip Code 003 = 9 digit U.S. Zip Code 004 = Canadian Post Code 005 = Longitude & Latitude 999 = Unknown
4-15	Location	
16	SIGN (Hex. "C")	

Table 11 - HHH Supporting Information

BCD Character	*Meaning*
1	**LRN Parsing Information** 1 = 4 right-most LRN digits were provided to AMA system 2 = 4 right-most LRN digits were filled (0) by AMA system 9 = Status of 4 right-most LRN digits is unkown
2	**LRN Source Indicator** 1 = LNP Database 2 = Switch data 3 = Incoming Signaling 9 = Unkown
3	**Query Failure Indicator** 1 = No query failure 2 = No response message received 3 = AIN CONTINUE message received as response 4 = Return Error component received in response message 5 = Reject component received in response message 6 = Protocol error detected in received response message 9 = Query failure of unknown cause
4	Reserved for Future use (Constant = 0)
5	Reserved for Future use (Constant = 0)
6	Reserved for Future use (Constant = 0)
7	Reserved for Future use (Constant = 0)
8	SIGN (Hex. "C")

The LNP Module fields shall be populated as follows:

a) Module Code (reference LSSGR Table 88): this field records the module code number YYY assigned to the LNP module.

b) PartyID (reference LSSGR Table BBB): this field identifies the party (originating, terminating, or alternate billed party) for which the number portability information is recorded in the LNP module. The following values may be recorded in the Party ID field:
   - this field is recorded with a value of '1' when the originating party number portability information is recorded in the LNP module;
   - this field is recorded with a value of '2' when the terminating party number portability information is recorded in the LNP module;
   - this field is recorded with a value of '3' when the alternate billed party number portability information is recorded in the LNP module;

c) Data Source Identifier (reference LSSGR Table FFF): this field identifies from where the information in the LNP module was obtained (LNP SCP database, incoming signaling, or switch data). The following values may be recorded in the Data Source Identifier field:
   - 0 = Not Used
   - 1 = LNP SCP database
   - 2 = Switch data
   - 3 = Incoming Signaling

d) Local Routing Number (LRN) (reference LSSGR Table CCC): this field records a 10 digit number which indicates the serving switch of the ported DN. The LRN is obtained from the LNP SCP database for a ported DN. For an AIN 0.1 solution, the CalledPartyId parameter of the response message received from the LNP SCP database will contain the LRN of the ported DN. For an IN solution, the Digits(Routing Number) parameter of the message received from the LNP SCP database will contain the LRN of the ported DN. When an LRN is not available from the LNP SCP database, the LRN field of the LNP module shall be populated with all zeros.

e) Service Provider Identity (reference LSSGR Table DDD): this field records a numeric identifier for the service provider of the ported party indicated by the Context ID field of the LNP module. The Service Provider Identity is obtained from either the LNP SCP database or from switch data. The Service Provider Identity shall be recorded in BCD with unused characters padded using zero.

f) Location (reference LSSGR Table EEE): this field is planned for future use. For Service Provider Portability it is an unused field and shall be populated with Hexadecimal 'F's including the SIGN character of the field.

g) Query Failure Indicator (reference LSSGR Table GGG): this field is marked as '0' when a response was received from the LNP SCP database with an LRN, or when an LNP module is generated without an LNP query being performed. If an LNP query was performed and response of CONTINUE, a response message containing a protocol error, or no response is received from the LNP SCP database, then this field shall be marked as '1' (query failed).